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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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24267	7590	08/21/2006	EXAMINER	
CESARI AND MCKENNA, LLP			LEROUX, ETIENNE PIERRE	
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BOSTON, MA 02210			PAPER NUMBER	

2161

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/898,894

Applicant(s)

WATANABE ET AL.

Examiner

Etienne P LeRoux

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30,36,38-44 and 46-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-30,36,38-44 and 46-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 July 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Continued Examination

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 8/16/2006 has been entered.

Claims Status

Claims 1-30, 36, 38-44, and 46-48 are pending, claims 31-35, 37 and 45 having been canceled. Claims 1-30, 36, 38-44, and 46-48 are rejected as detailed below.

Specification

The attempt to incorporate subject matter into this application by reference to [Atty. Docket No. 112056-0002] is ineffective because it does not include the Application Serial Number and the filing date. Furthermore, applicant is requested to confirm that above application has been published for proper incorporation in instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claim 1 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 1 recites “an initiator process that establishes a swarm of messages with respect to the storage system transaction entries and delivers the swarm to the file system.” The specification does not include a clear and concise description of the manner and process of establishing a swarm of messages such that a skilled artisan would be convinced that at the time of filing instant application, the inventor had possession of the invention. Particularly, applicant states in the second paragraph of page 13 “when a swarm is established, it is passed as a single group from the initiator process 332 to the WAFL process upon reply. WAFL then processes these messages in a somewhat arbitrary order as part of the overall swarm.” A completely different concept is given in paragraph 3 of page 13 which includes “To support a procedure for ensuring that the proper processing order is maintained for a swarm, each message is initially provided by the initiator process with a with a logical “transaction block” 502. The transaction blocks each contain a state variable 504 and a pointer 506, each associated with a discrete message 401 of the swarm, and pointing to a discrete log entry 402 in the NVRAM log. The transaction blocks 502 are mapped one-to-one with each message. In this example, a swarm of 200 messages 401, corresponding to 200 transaction blocks 504 are grouped.” Processing the messages in a somewhat arbitrary order as part of the overall swarm is certainly very different to providing each message with a logical transaction block. It appears that at the time of filing instant application, the inventor did not have possession of the invention.

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The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 1 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Where applicant acts as his or her own lexicographer to specifically define a term of a claim contrary to its ordinary meaning, the written description must clearly redefine the claim term and set forth the uncommon definition so as to put one reasonably skilled in the art on notice that the applicant intended to so redefine that claim term. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1357, 52 USPQ2d 1029, 1033 (Fed. Cir. 1999). The term “swarm of messages” in claim 1 is used by the claim to mean “a moving mass, crowd or throng,” while the accepted meaning is “group of messages.” The term is indefinite because the specification does not clearly redefine the term.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-4, 8-24, 26-30, 36, 38-40 and 46-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,440,726 issued to Fuchs et al (hereafter Fuchs) in view of US Pat No 5,588,117 issued to Karp et al (hereafter Karp) and further in view of US Pat No 6,128,762 issued to Jadav et al (hereafter Jadav).

Claims 1, 10, 15, 20, 26, 36, and 46:

Fuchs discloses:

a log in the backup memory containing storage system transaction entries accumulated after a consistency point at which time results of the transaction entries are committed to the disk array [Fuchs, col 3, lines 28-33]

Fuchs discloses the essential elements of the claimed invention as noted above but does not disclose an initiator process that establishes a swarm of messages with respect to the transaction request entries and delivers the swarm to the file system. Karp discloses an initiator process that establishes a swarm of messages with respect to the transaction request entries and delivers the

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swarm to the file system [Fig 2, col 3, lines 25-45].¹ It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Fuchs to include an initiator process that establishes a swarm of messages with respect to the transaction request entries and delivers the swarm to the file system as taught by Karp for the purpose of establishing a communications protocol using group ordered message processing [Karp, abstract].

The combination of Fuchs and Karp discloses the essential elements of the claimed invention as noted above but is silent regarding a parallel disk-information retrieval process in the file system that is carried out on the swarm of messages in parallel. Jadav discloses a disk-information retrieval process in the file system that is carried out on the swarm of messages [Fig 1, col 3, line 49 through col 4, line 2]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination of references to include a parallel disk-information retrieval process in the file system that is carried out on the swarm of messages as taught by Jadav for the purpose of providing a RAID system which includes parallel computing architecture [Jadav, col 2, lines 4-10].

Claim 2:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 1 as noted above and furthermore, Fuchs discloses wherein each of the messages of the swarm is identified by a transaction block including a pointer to one of the transaction request entries in the log, respectively, and a state that indicates whether each of the messages is one of (a) newly transferred to the file system [col 3, lines 17-26].

Claim 3:

¹ swarm of messages is interpreted as group of messages per the specification

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The combination of Fuchs, Karp and Jadav discloses the elements of claims 1 and 2 as noted above and furthermore, Fuchs discloses wherein the prerequisite event is completion of the load phase and a modify phase with respect to another of the messages [col 14, lines 11-32]

Claim 4:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 1-3 as noted above and furthermore, Fuchs discloses wherein the initiator process is adapted to retransfer each of the messages incapable of being subject to a load phase until the prerequisite event occurs to the file system for completion of the load phase after the prerequisite event occurs respectively [col 16, lines 39-53]

Claim 8:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 1 as noted above and furthermore, Fuchs discloses wherein the backup memory comprises a non-volatile random access memory (NVRAM) [col 3, line 5].

Claim 9:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 1 as noted above and furthermore, Fuchs discloses wherein the storage system comprises a network storage appliance [title]

Claim 11:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 10 as noted above and furthermore, Fuchs discloses wherein each of the messages of the swarm is identified by a transaction block including a pointer to one of the transaction request entries in the log,

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respectively, and a state that indicates whether each of the messages is one of (a) newly transferred to the file system [col 3, lines 17-26].

Claim 12:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 10 and 11 as noted above and furthermore, Fuchs discloses wherein the prerequisite event is completion of the load phase and a modify phase with respect to another of the messages [col 14, lines 11-32]

Claim 13:

The combination of Fuchs, Karp and Jadav of claims 10-12 as noted above and furthermore, Fuchs discloses wherein the initiator process is adapted to retransfer each of the messages incapable of being subject to a load phase until the prerequisite event occurs to the file system for completion of the load phase after the prerequisite event occurs respectively [col 16, lines 39-53]

Claim 14:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 10 as noted above and furthermore, Fuchs discloses wherein the storage system comprises a network storage appliance [Fig 1, item 12 and col 5, lines 57-65]

Claim 16:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 15 as noted above and furthermore, Fuchs discloses establishing for each of the messages of the swarm, a transaction block including a pointer to one of the transaction request entries in the log, respectively, in the log and a state that indicates whether each of the messages is one of :
(a) newly transferred to the file system [col 3, lines 17-26],

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Claim 17:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 15 and 16 as noted above and furthermore, Fuchs discloses wherein the prerequisite event is completion of the load phase and a modify phase with respect to another of the messages [col 14, lines 11-32]

Claim 18:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 15-17 as noted above and furthermore, Fuchs discloses wherein the initiator process is adapted to retransfer each of the messages incapable of being subject to a load phase until the prerequisite event occurs to the file system for completion of the load phase after the prerequisite event occurs respectively [col 16, lines 39-53]

Claim 19:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 15 as noted above and furthermore, Fuchs discloses wherein the storage system comprises a network storage appliance [Fig 1, item 12 and col 5, lines 57-65].

Claim 21:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 20 as noted above and furthermore, Fuchs discloses each of the messages of the swarm is identified by a transaction block including a pointer to one of the transaction request entries [col 3, lines 17-26].

Claim 22:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 20 as noted above and furthermore, Fuchs discloses a state that indicates whether each of the messages is one of (a) newly transferred to the file system [col 3, lines 17-26].

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Claim 23:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 20 and 22 as noted above and furthermore, Fuchs discloses wherein the prerequisite event is completion of the load phase and a modify phase with respect to another of the messages [col 14, lines 11-32].

Claim 24:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 20-23 as noted above and furthermore, Fuchs discloses wherein the initiator process is adapted to retransfer each of the messages incapable of being subject to a load phase until the prerequisite event occurs to the file system for completion of the load phase after the prerequisite event occurs respectively [col 16, lines 39-53]

Claim 27:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 26 as noted above and furthermore, Fuchs discloses each of the messages of the swarm is identified by a transaction block including a pointer to one of the transaction request entries [col 3, lines 17-26].

Claim 28:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 20 as noted above and furthermore, Fuchs discloses a state that indicates whether each of the messages is one of (a) newly transferred to the file system [col 3, lines 17-26].

Claim 29:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 20 and 28 as noted above and furthermore, Fuchs discloses wherein the prerequisite event is completion of the load phase and a modify phase with respect to another of the messages [col 14, lines 11-32]

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Claim 30:

The combination of Fuchs, Karp and Jadav discloses the elements of claims 20, 28 and 29 as noted above and furthermore, Fuchs discloses wherein the initiator process is adapted to retransfer each of the messages incapable of being subject to a load phase until the prerequisite event occurs to the file system for completion of the load phase after the prerequisite event occurs respectively [col 16, lines 39-53]

Claim 38:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 1 as noted above and furthermore, Fuchs discloses a third process that modifies at least some messages in the swarm of messages based on the order in which storage system transactions entries were stored in the log [col 11, lines 3-19].

Claim 39:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 10 as noted above and furthermore, Fuchs discloses a third process that modifies at least some messages in the swarm of messages based on the order in which storage system transactions entries were accumulated in the log [col 11, lines 3-19].

Claim 40:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 26 as noted above and furthermore, Fuchs discloses a third process that modifies at least some messages in the swarm of messages based on the order in which storage system transactions entries were accumulated in the log [col 11, lines 3-19].

Claims 47 and 48:

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The combination of Fuchs, Karp and Jadav discloses:

a backup memory storing a plurality of transaction entries [Fuchs, abstract]

a first process that establishes a swarm of messages with respect to the transaction entries and delivers the swarm of messages to the operating system [Karp, col 3, lines 50-65]

a second process that performs a parallel LOAD phase for a plurality of messages in the swarm of messages where the LOAD phase is processes by commingling one or more steps of the LOAD phase applied to each message of the swarm of messages [Jadav, col 3, lines 50-60]

a third process that performs a MODIFY phase for at least some messages in the swarm of messages, the MODIFY phase operating on messages based on the order in which the transaction entries were stored in the backup memory [Karp, col 3, lines 35-45]

1. Claims 5 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fuchs, Karp and Jadav and further in view of Pub No 2003/0131190 issued to Park et al (hereafter Park).

Claim 5:

The combination of Fuchs, Karp and Jadav Fuchs discloses the elements of claims 1- 4 as noted above but does not disclose wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm. Park discloses wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm [paragraph 9]. It would have been

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obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination of references to include wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm as taught by Park. The ordinarily skilled artisan would have been motivated to modify the above combination of references per the above for the purpose of purpose of skipping defective sectors [paragraph 9].

Claim 25.

The combination of Fuchs, Karp and Jadav discloses the elements of claim 20 as noted above but does not disclose wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm. Park discloses wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm [paragraph 9]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination of references to include wherein the initiator is adapted to establish a skip state with respect to a skipped messages for which a portion of the disk array associated therewith is unavailable, the skip state thereby omitting the skipped messages from the swarm as taught by Park. The ordinarily skilled artisan would have been motivated to modify the above combination of references per the above for the purpose of purpose of skipping defective sectors [paragraph 9].

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2. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over the combination of Fuchs, Karp and Jadav and further in view of US Pat No 6,330,570 issued to Crighton (hereafter Crighton).

Claim 6:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 4 as noted above but fails to disclose wherein the file system includes a panic state adapted to alert an operator if a message received from the initiator in the swarm is a message incapable of being subject to a load phase until a prerequisite event occurs. Crighton discloses a failure in reading a file or writing the file to the backup apparatus triggers a warning message [col 2, lines 34-36]. It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the above combination of references to obtain wherein the file system includes a panic state adapted to alert an operator if a message received from the initiator in the swarm is a message incapable of being subject to a load phase until a prerequisite event occurs. The ordinarily skilled artisan would have been motivated to modify the above combination of references per the above for the purpose of alerting an operator if a backup has not been successfully completed [col 2, lines 26-30].

Claim 7:

The combination of Fuchs, Karp and Jadav discloses the elements of claim 4 as noted above but fails to disclose wherein the file system includes a panic state adapted to alert an operator if a message is retransferred by the initiator process is a message incapable of being subject to a load phase until a prerequisite event occurs. Crighton discloses a failure in reading a file or writing the file to the backup apparatus triggers a warning message [col 2, lines 34-36]. It

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would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the combination of Fuchs '726 and Crighton '726 to include wherein the file system includes a panic state adapted to alert an operator if a message is retransferred by the initiator process is a message incapable of being subject to a load phase until a prerequisite event occurs. The ordinarily skilled artisan would have been motivated to modify the combination of Fuchs and Crighton as per the above for the purpose of alerting an operator if a backup has not been successfully completed [col 2, lines 26-30].

3. Claims 41-44 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,440,726 issued to Fuchs et al (hereafter Fuchs).

Claims 41, 44:

Fuchs discloses:

a backup memory storing a plurality of file system transaction entries [Fig 1, 82]

a second process that performs a load phase in a concurrent manner for a plurality of messages in the swarm of messages [col 14, lines 11-32]

a third process that performs a modify phase for at least some messages in the swarm of messages, the modify phase operating on messages based on the order in which file system transaction entries were stored in the backup memory [col 11, lines 3-19]

Fuchs discloses the essential elements of the claimed invention as noted above but does not disclose a first process that establishes a swarm of messages with respect to the file system. Karp discloses but does not disclose a first process that establishes a swarm of messages with respect to the file system [Fig 2, col 3, lines 25-45]. It would have been obvious to one of

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ordinary skill in the art at the time the invention was made to modify Fuchs to include but does not disclose a first process that establishes a swarm of messages with respect to the file system as taught by Karp for the purpose of establishing a communications protocol using group ordered message processing [Karp, abstract].

Claim 42:

The combination of Fuchs and Karp discloses the elements of claim 41 as noted above, and furthermore, Fuchs discloses a fourth process that determines whether a file system transaction entry corresponds to a file system transaction that can be performed right away [col 10, lines 15-40]

Claim 43:

The combination of Fuchs and Karp discloses the elements of claims 41 and 42 as noted above and furthermore Fuchs discloses wherein the fourth process, in response to determining that the file system transaction cannot be performed right away, associates the file system transaction entry with a load retry state until a prior prerequisite transaction is performed [col 10, lines 15-40]

Response to Arguments

Applicant's arguments filed June 30, 2006 have been fully considered but are not persuasive for the reasons given below.

Applicant Argues:

Applicant states in the third paragraph of page 13:

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Applicant respectfully urges that Fuchs, Karp, and Jaday, taken alone or in combination do not teach or disclose Applicant's claimed novel "a parallel disk information retrieval process in the file system that is carried out on the swarm of messages in parallel by one or more processors within the storage system."

Examiner Responds:

Examiner is not persuaded. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the claims are interpreted in light of the specification without reading limitations from the specification into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The claim language "swarm of messages" when interpreted according to the specification is simply a group of messages. Support for this conclusion is provided by applicant in Amendment of February 27, 2006, paragraph 3 which states:

Applicant uses the standard definition for 'swarm of messages' which is a 'group of messages' as shown in the specification page 5, lines 7-8, which states 'a technique for transferring a group of cline transaction request entries the file system as a swarm of messages.

A common dictionary² definition for "group" the following is obtained:
basic general word expressing the simple of idea of an assembly of persons animals or things without further connotation. Examiner concludes that "swarm of messages" can be interpreted as a group of messages, i.e., an assembly of messages without further connotation. Considering above definition of "swarm of messages" the following disclosure by Karp is pertinent:

Karp discloses the following in column 2, lines 27-33:

² Webster's New World Dictionary, Fourth Edition.

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The sending portion includes a control unit for segmenting the messages to be sent into groups, assigning a required number of messages value to each of the groups, and sending the messages together with the required number of messages value associated therewith to the another of the processing nodes.

Furthermore, Jadav discloses a parallel disk information retrieval process [Fig 1, col 3, line 49 through col 4, line 2]

Furthermore, Karp discloses one or more processors [col 5, line 60 through col 6, line 20].

Applicant Argues:

Applicant states in the last paragraph of page 13:

There is no disclosure in Jadav to process the swarm of messages I parallel by one or more processors within the storage system because Jadav describes stand-alone computers running on their own operating system. In contrast, Applicant's invention uses a storage system for processing the plurality (swarm) of messages in parallel through multiple processors or a single processor within the storage system.

Examiner Responds:

Examiner is not persuaded. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Jadav discloses the following in column 3, line 49 thorough column 4, line 2:

In preferred embodiments, the computers 6a, b, c run parallel processing software, such as the ORACLE PARALLEL SERVER.TM., the MICROSOFT.RTM. Wolfpack Clustering System or

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any other clustering software. ORACLE PARALLEL SERVER is a trademark of Oracle Corporation; MICROSOFT is a registered trademark of Microsoft Corporation. This parallel processing software allows the computers 6a, b, c to share storage devices 10a, b, c such that any node 4a, b, c may access any block in any of the storage devices 10a, b, c. This parallel architecture allows data to be distributed across different storage devices 10a, b, c throughout the shared device system 2. The parallel processing software, implemented in the computers 6a, b, c, may perform logical locking to insure that only one write request is made to a block in any of the storage devices 10a, b, c, at any given time and to insure that an application does not attempt to read a block being modified by another application. To perform logical locking under control of the parallel processing software, the computers 6a, b, c would exchange messages, data, and information via the additional network 13. The adaptors 8a, b, c perform physical locking.

Jadav discloses parallel processing as noted above.

Applicant Argues:

Applicant states in the second paragraph of page 14:

Fuchs discloses replaying the message in the order they are received. In contrast to Fuchs, Applicant's invention processes the plurality messages by commingling the steps of the messages (i.e., not processing each, entire message in the order received) or using multiple processors to process the messages in parallel (i.e., not in the order they are received because for example 2 or 3 messages are processed at one time). Fuchs does not have the capability nor does Fuchs suggest processing the messages other than in the order they are received.

Examiner Responds:

Examiner is not persuaded. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., processing the messages other than in the order they are received) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Etienne P LeRoux whose telephone number is (571) 272-4022. The examiner can normally be reached Monday through Friday between 8:00 am and 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jeffrey Gaffin can be reached on (571) 272-4146. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

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Etienne LeRoux

8/16/2006



Primary Examiner